emagic

evp|88

Software Instruments

Owner's Manual

» Version 1.0, April 2001

» English Edition

License Agreement

Important! Please read this licence agreement carefully before opening the disk seal! Opening of the disk seal and use of this package indicates your agreement to the following terms and conditions. Emagic grants you a non-exclusive, non-transferable license to use the software in this package.

You may:

1. use the software on a single machine.
2. make one copy of the software solely for back-up purposes.

You may not:

1. make copies of the user manual or the software except as expressly provided for in this agreement.
2. make alterations or modifications to the software or any copy, or otherwise attempt to discover the source code of the software.
3. sub-license, lease, lend, rent or grant other rights in all or any copy to others.

Except to the extent prohibited by applicable law, all implied warranties made by Emagic in connection with this manual and software are limited in duration to the minimum statutory guarantee period in your state or country from the date of original purchase, and no warranties, whether express or implied, shall apply to this product after said period. This warranty is not transferable-it applies only to the original purchaser of the software. Emagic makes no warranty, either express or implied, with respect to this software, its quality, performance, merchantability or fitness for a particular purpose. As a result, this software is sold "as is", and you, the purchaser, are assuming the entire risk as to quality and performance. In no event will Emagic be liable for any direct or indirect damages resulting from any defect in the software or documentation.

This agreement will terminate if you fail to comply with any term or condition in this agreement.

This agreement shall be governed by the laws of the Federal Republic of Germany.

This manual, copy-protection and software described herein are copyrighted © 2001 by Emagic Soft- und Hardware GmbH, Halstenbeker Weg 96, 25462 Rellingen, Germany

Conception and Project Management: Steffan Diedrichsen

DSP Development: Steffan Diedrichsen

Model Shaping: Manfred Maraun

GUI Development: Jan Cordes

Graphic Design: Ole Lagemann

E-Piano Expertise and Design Consulting: Chris Adam
Jan-Hinnerk Helms
Sven Junge
Gerhard Lengeling

User's Manual: Jan-Friedrich Conrad
Dave Bellingham
Jeff Bohnhoff
Andreas Dedring
Uwe Senkler

1 Welcome 7

2 What the Package Includes 10

3 Quick Start 11

The EVP88 CD 11
The "Audio Instrument" Object Type 11
Loading and Playing an EVP88 Instrument 12

4 Installation 14

Copy-protection 14
Installing a New Program on a Hard Disk 14
Renewing the Authorization 14
Optimization Programs 15
Formatting the Hard Disk 15

5 The EVP88—Concept and Functions 16

Overview and Integration 16
Automation 17

6 The Parameters of the EVP88 18

Model Parameters 20

7 The E-Piano Models Emulated 26

8 MIDI Controller List 30

1 Welcome ...

... and thank you for your purchase of the Emagic Vintage Piano—EVP88.

This manual will introduce you to the concept and the functions of the EVP88. Please read it thoroughly to get the most out of your new software instrument.

The sounds of various Fender Rhodes pianos are among the most popular keyboard instrument sounds used in the second half of the twentieth century. The various Rhodes models have been popularized in a wide range of musical styles, ranging from pop and rock, electric jazz, jazz rock, soul and in countless ballads, plus recent house and hip hop genres. Nearly as popular was the Wurlitzer piano, which enjoyed most of its success in the seventies. The Rhodes, Hammond organ and subtractive analog synthesizers were considered the "fundamental" instruments in the keyboard rigs of rock musicians between 1965 and 1985, and they appeared to be incomparable and unbeatable ... until now.

Product and manufacturer's names used in this manual are licensed and protected by law.

The EVP88's piano synthesis engine simulates the sound of different Rhodes and Wurlitzer pianos, as well as the sound of the Hohner Electra piano. The piano synthesis engine is designed solely for the simulation of electric pianos, and does not make use of any sampling technology. As such, we can proudly claim that the EVP88 is most definitely not a digital piano! The EVP88 does not feature acoustic piano or grand piano sounds. Its only purpose is the ultra-realistic simulation of electric pianos. The dynamics and scaling of the sounds over the entire 88-key range is silky smooth and does not suffer from the abrupt changes in sound that typify sampled instruments. There are no audible loops, and we promise that you'll never hear any low pass filters closing while the sound of a note is decaying.

The EVP88's engine also simulates the physical movement of the various electric piano reeds, tines and tone bars in the electric and magnetic fields of the pickups found in the original instruments. It synthesizes the ringing, smacking and bell-like transients of the attack phase, as well as the hammer action and damper noises. The sound generator reacts smoothly, musically and precisely to the 127 steps of velocity sensitivity as defined in the MIDI specification.

You'll appreciate the sound of the EVP88—and its perfect integration into Logic Audio. In use, it's even easier to handle than a physical electric piano unit equipped with a MIDI In. As other benefits, there's no need to transport a bulky and heavy instrument or to attach MIDI, power or audio cables to it.

Its response to the note messages of a MIDI sequence track is even a little faster than that of a MIDI sound generator connected via a MIDI cable. The EVP88 can also be played while Logic Audio is in stop mode. The minimum achievable latency depends on your audio and MIDI interface hardware.

Whatever you play on the EVP88 can be recorded by simply pressing Logic Audio's record button. In addition, any adjustments to the EVP88's controls can be recorded and edited using any of Logic Audio's MIDI editor windows. All EVP88 parameter automation is performed via MIDI control change messages, as is the mix automation. This allows volume, panorama and effects changes over time to be recorded and edited.

Incorporated into the EVP88's photo-realistic front panel, you will discover an integrated effects processor which provides a number of classic effects popularly used on electric piano sounds. The algorithms featured in the effects processor have been specifically designed, adapted and optimized for the EVP88. Included are: a great sounding equalizer, an overdrive, a stereo phaser, a stereo tremolo and stereo chorus.

All of Logic Audio's extensive native plug-in selection are available for use with the EVP88 via the aux sends and plug-in slots of the Audio Instrument channel strip.

We wish you many years of inspired piano-playing, successful arranging, work, fun and productivity with the EVP88!

Your EMAGIC team

2 What the Package Includes

Your EVP88 package contains the following components:

- the EVP88 CD
- this manual
- a registration card.

Please complete the registration card as soon as possible and send it to the Emagic distributor in your country or territory.

Once registered, you will have access to…

- a regular update and support service via the Internet:
  http://www.emagic.de
- support via our Hotline:
  in the USA phone 1-530-477 1050, fax 1-530-477 1052
  in Germany phone +49-4101-495-110
  in other countries: please consult the Emagic distributor in your country or territory.

3 Quick Start

The EVP88 CD

The EVP88 is authorized independently of the copy protection systems used by Logic Audio Silver (authorization file), Gold or Platinum (hardware key). When activating the EVP88 for the first time, Logic will ask you to insert the EVP88 CD. Periodically, at infrequent, irregular intervals, you will be asked to reauthorize the EVP88. We therefore ask that you take care not to lose the CD, and always keep it at hand. These security procedures are the prerequisite for any future development of the EVP88, and we would like to thank you in advance for your understanding.

The "Audio Instrument" Object Type

In Logic Audio's Mixer (or Audio Environment Layer in Logic Audio Silver, Gold and Platinum), there is an audio object type called "Audio Instrument". Audio Instrument objects appear as channel strips in the Environment's Audio layer and Track Mixer window. These objects allow synthesizer plug-ins to be inserted in their top insert slot. The default song—the song that opens automatically if you move your Autoload away from the Logic folder—has pre-configured Audio Instruments.

An Audio Instrument is an audio object (or an Audio Track in MicroLogic AV) with the *Cha* parameter switched to one of the *Instruments* (*1-16*). Any audio object can be switched to operate as an Audio Instrument by changing this parameter in the object parameter box. You can insert the EVP88 plug-in into an audio object—created by selecting **New** > **Audio Object**—only after its *Cha* parameter is set to an *Instrument* channel.

To create a new Audio Instrument in MicroLogic AV, you simply select **Track** > **Create Audio Instrument**.

Loading and Playing an EVP88 Instrument

The EVP88 comes with a library of ready-to-play Electric Piano Sounds which we call "settings". Following installation of the EVP88, these settings can be found in the "EVP88" subfolder located in the folder "Plug-In Settings" inside Logic's program folder. Please follow these steps in order to audition the EVP88 settings:

- Start Logic Audio (or MicroLogic AV).
- Select or create a new Audio Instrument object (see above) and select the EVP88 from the list of plug-ins which appears after clicking on the first (top) plug-in slot of the Audio Instrument.
- Launch the Arrange window, if not already open, via the Windows menu or Key Command.
- Select the corresponding Audio Instrument object—i.e. the one with the EVP88 inserted—in the Arrange Window's Track List. This selection will activate the object, enabling it to receive MIDI data from your keyboard.
- Launch the Mixer window or Audio layer in the Environment, if not already open, via the Windows menu or Key Command.
- Double-click on the blue "EVP88" label in the top slot of the Audio Instrument object to open the plug-in window.
- The EVP88 is now ready to play.
- You may select any of the EVP88 settings by click-holding on the flip menu in the silver panel area (to the right of the bypass switch).

Adaptation of Your MIDI Keyboards Velocity Sensitivity

The EVP88 responds with extreme sensitivity to the velocity information transmitted with MIDI note messages. It's advisable to set Logic Audio's *velocity* and *dynamic* track parameters with care. In Logic Audio Gold and Platinum, you can try the

following tip to fine-tune the velocity curve if you find that you're not getting the right "feel" with your MIDI keyboard.

- Create a Transformer object in the Environment, and cable it between the *Physical Input* and *Sequencer Input* objects on the Click and Ports layer.
- Set the transformer parameters so that all MIDI events with the condition "note" are set to *Use Map* under *Vel* in the lower operation line.
- You can then "draw" your own individual keyboard velocity curve. For more detailed information, please refer to the Environment chapter of the Logic Audio reference manual.

4 Installation

Copy-protection

The EVP88 is protected against illegal copying via a transparent software protection scheme contained on the EVP88 CD.

Upon installation of the EVP88, the hard disk becomes *authorized* to run the EVP88.

- The authorization is saved in the boot partition (Windows) or Start Volume (Mac). If you boot from several different partitions or Volumes, please authorize these partitions or Volumes as well.

As mentioned earlier, you will be asked for the CD every now and then.

One week before the authorization is due to expire, a warning message will appear when you insert an EVP88 into an Audio Instrument channel. Insert the EVP88 CD as soon as possible, to renew the authorization.

Installing a New Program on a Hard Disk

On the EVP88 CD you will find an installation program. Start this program and follow the on-screen instructions.

Renewing the Authorization

From time to time you will be asked to renew the authorization. The following message will appear:

> *Hard disk authorization will expire in 7 days. Do you want to reauthorize now or later?*

The authorization will expire 7 days after the warning has been displayed for the first time. It doesn't matter if EVP88 is, or is not used during this period.

After expiration this message will appear:

> *Hard disk authorization has expired. You need to re-authorize from CD.*

To avoid this expiration message, please renew the authorization as soon as you are asked for it.

Optimization Programs

The EVP88's copy protection is not affected by disk optimization and defragmenting programs. You may use programs such as Norton Speed Disk, MS Defragmenter or DiskExpress II as often as you like.

Formatting the Hard Disk

If you format or partition a hard disk which is authorized for the EVP88, you will need to reinstall and reauthorize the EVP88.

5 The EVP88—Concept and Functions

Overview and Integration

Dependent on the version of Logic Audio installed on your system, up to 24 instances of the EVP88 can be inserted into the various Audio Instrument objects. Each instance of the EVP88 offers up to 88 stereo voices, allowing for glissandi with the sustain pedal held down, even on full-length keyboards. It should be noted, however, that the total number of available voices is always CPU-dependent.

The output signal of the EVP88 is always stereophonic. It is fed into the input of the Audio Instrument channel strip, where it can be processed via inserted plug-ins and/or sent to busses (as shown below). Given a fast enough computer, you could conceivably arrange and mix an entire song using several Audio Instruments, such as the Emagic ES1, ES2, Emagic EXS24 or Emagic EVP88. This has the added benefit of superior sound quality and timing as the signal never leaves the digital domain, and you can freely edit these software instrument parts, change the tempo and more, right up to the final mix.

The *Bounce* button found on the Master audio object allows you to write submixes of EVP88 tracks—as an audio file—to disk at any time. Audio Instrument tracks which have been recorded in this way can then be used as normal audio tracks in the arrangement. You can make use of this facility to free up CPU resources when a song requires more processing power than your CPU is capable of delivering, and does not allow all desired EVP88 tracks to be played in realtime.

All parameters of the EVP88 and all associated Audio Instrument channel parameters—Volume, Pan etc.—can be fully automated. As MIDI controllers are used for this (as with all automation in Logic), the automation data can easily be edited or created in several of Logic's editor windows.

The Plug-in Window

Hands-on operation of the EVP88 is performed in the plug-in window. The plug-in window can be accessed by double-clicking on the blue EVP88 label on an Audio Instrument object. When launched, the plug-in window allows access to all EVP88 parameters. Each instance of the EVP88 can have its own plug-in window, which allows each instance to have discrete settings.

The plug-in window of the EVP88.

Automation

As with every Logic plug-in, the EVP88 can be fully automated. Simply select the desired EVP88 track, activate Record, and move the faders and switches in the EVP88's plug-in window. The Audio Instrument object in which the EVP88 is inserted routes the MIDI controller data to the sequencer. This data will be recorded on the selected track, and will automate the EVP88's faders and switches on playback. You can record automation data in one or more takes, on one or more tracks.

The MIDI controller data used for automation can be edited or created in any suitable Logic editor. A list of the controllers used by the EVP88 can be found in the Appendix of this guide.

6 The Parameters of the EVP88

The parameters described in this section are easier to manipulate from within the *Editor* view of the plug-in window. If you can see multiple horizontal sliders on a blue background, please switch from the *Controls* view to the *Editor* view, using the flip menu found in the upper portion of the plug-in window.

You can reset many of the EVP88's parameters to zero or to other standard values by clicking on them while holding ctrl (Windows) or ⌥ (MacOS).

Selecting and Saving Sounds

The Setting flip menu allows the selection and loading of an EVP88 Sound—i.e. *Setting* (**Setting** > **Load Setting**). A setting must reside in the *EVP88* subfolder in the folder *Plug-In Settings* inside Logic's program folder for it to appear in this menu.

To save your personalized electric piano sound settings, select **Setting** > **Save Setting**, and give the sound an appropriate name in the ensuing "Save" dialog box.

Model

The big switch shown above allows you to choose the electric piano model. When selecting a new model, all currently active (i.e.—sounding) voices are muted, and all parameters are reset to standard values. As such, it is advisable to select the model first and to edit the effects and parameter settings after model selection. There are several Rhodes models available, such as the Mark I, Mark II and the suitcase piano plus the Wurlitzer and Hohner Electra Models. The EVP88 simulates the sound of these instruments which have (re)written modern popular music history. You can read more about the simulated instru-

ments in *The E-Piano Models Emulated* section, from page 26 onwards.

The names of these instruments are registered trademarks and are protected by law.

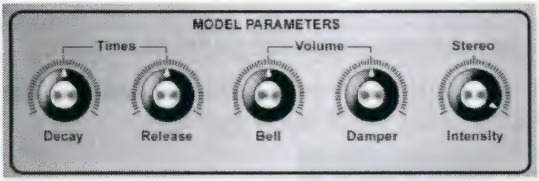
Voices

The voices parameter allows you to set the maximum number of voices that can sound simultaneously. Lowering the value of this parameter limits the polyphony and also the processor requirements of the EVP88. When the parameter is set to 1, the instrument is monophonic, and uses minimal CPU power. The maximum setting is 88, allowing for glissandi over the entire keyboard range with the sustain pedal depressed. A setting of 88 will, of course, be more processor-intensive.

Tune

The global *Tune* setting works in Cent steps. A value of 0 equals concert-pitch A440 Hz. The range is ±50 Cents or, in more "musical" terms, plus/minus half a semitone. For transpositions in semitone or octave steps, please use the instrument parameter box in the arrange window, as per any standard MIDI instrument.

Model Parameters



Decay

Decay time of the piano sound. The lower the value, the less the sound is sustained, and the higher the level of damping applied to the vibration of the "tines". When short values are used for this parameter, the main tone is more pronounced, and sounds longer than the transient harmonics. The effect is somewhat reminiscent of an electric guitar string being damped with the palm of the picking hand. Electric pianos can be modified in a similar way. Longer settings result in more sustain and a less dynamic feel.

Check out Logic Audio's compressor plug-ins and experiment with different settings for decay.

Release

The release parameter determines the amount of "damper" applied after the keys are released. Using extremely long settings, you can play the piano like a vibraphone.

Bell

Bell determines the level of the inharmonic treble portion of the tone. It is useful for emulating a number of classic and typical electric piano sounds.

Damper

This parameter sets the level of the damper noise caused by the damping felt hitting the vibrating tine.

Stereo

If *Stereo* is set to high values, bass notes sound from the left, and treble notes from the right channel. The effect is nice and spacey, but it is not typical for vintage electric piano sounds. Even with acoustic pianos, the effect is less intense than one might expect.

The stereo control is not restricted to the bass sound from the left, treble from the right use outlined above. Using Logic Audio Gold and Platinum's plug-ins, you can process the upper notes differently to the lower ones. With appropriate signal processing routings, you can, for example, add some bass via an EQ in the left "bass" channel and apply a little echo to the higher notes. As another option, you could listen to the summed post-FX signals in mono.

Stretch and Warmth

The EVP88 is tuned to an equal-tempered scale. As a deviation from this standard tuning, you can stretch the tuning in the bass and treble, much like acoustic pianos (especially upright pianos). You can also modulate the tuning of each note randomly. The main tuning parameter is *Tune*.

The tones of upright pianos, and—due to their longer strings, less so—grand pianos have "inharmonicities" in their harmonic structure. The frequencies of the harmonics are not exactly, as pythagorean theory dictates, even multiples of the base frequency. They are only approximate and, in fact, are a little higher. The harmonics of lower (tuned) notes, therefore, are more closely related to the main frequencies of the upper notes. Due to the lack of strings, this inharmonic relationship is not true of electric pianos, nor the EVP88. The stretch feature was included for situations where you may wish to use the EVP88 in an arrangement alongside an acoustic piano. When arranged in conjunction with an orchestra or synthesizers, the stretched tuning facility should not be used.

Lower Stretch

Deviation from the equal-tempered scale in the bass end of the sound. The higher the value, the further *down* the low notes are tuned. With a setting of *0*, the EVP88 is tuned to an equal-tempered scale, with each octave down exactly halving the frequency.

Upper Stretch

Deviation from the equal-tempered scale in the treble end of the sound. The higher the value, the further *up* the high notes are tuned. With a setting of *0*, the EVP88 is tuned to an equal-tempered scale, with each octave up exactly doubling the frequency.

Warmth

Amount of random deviation from an equal-tempered scale. High values add "life" to sounds.

When applying *Warmth* and *Stretch*, you should consider that these parameters may result in a detuned sound, which is similar to the overuse of a chorus effect.

Equalizer

Treble

This is a conventional Filter for the high frequency range. Depending on which model is selected, shelving or peak type filters are utilized, with optimized frequency ranges for each model pre-selected.

Bass

This is a conventional Filter for the low frequency range. Depending on which model is selected, shelving or peak type filters are utilized, with optimized frequency ranges for each model pre-selected.

By defeating the treble and bass frequency ranges, you can achieve a very direct and aggressive sound with a more dominant mid range. If you require more precise equalization, remember that you can insert any of Logic Audio's equalizer plug-ins

into the Audio Instrument channel strip. There's also a tone control in the overdrive circuit which can be used to further contour the sound.

Drive

Playing an electric piano is best when using tube amplifiers. They offer a wide range of tones ranging from the subtle warmth of crunchy guitar amplifiers through to psychedelic, screaming rock distortion. The EVP88 features an overdrive effect, which simulates the saturation characteristics of a tube amplifier stage. The overdrive process is the first signal processing circuit in the chain of effects available in the EVP88.

Tone

The tone control is used to EQ the sound before being sent to, and distorted by, the virtual tube amplifier circuit. You can choose a more mellow tonal color here, and still boost the treble with the equalizer after the overdrive circuit. If you prefer harsh distortion characteristics that come closer to overdriven transistor stages, use higher tone parameter values. If the sound gets too hard, you can defeat the treble via the treble control, post the overdrive process.

Gain

The gain control determines the amount of harmonic distortion.

Phaser

Phaser pedals used by electric guitarists are "classic" effect tools for electric pianos as well—especially in the electric jazz, jazz-rock and pop styles of the seventies. Classical four-stage

phasing effects are based on phase shifting using modulated all-pass filters. Mixing the phase-delayed signal with the original signal results in characteristic notches in the frequency response curve, also known as the comb-filter effect. The frequencies of the notches in the frequency range are not harmonic (as with the resonances known from the flanger effect), and these notches are shifted up and down through the sonic spectrum via LFO (low frequency oscillator) modulation.

Logic Audio Gold and Platinum offer more parameters in their phaser plug-ins. You can use these effects alternately to, or in conjunction with, the EVP88's phaser. The parameters found in the EVP88-phaser have much in common with the best analog phasers of the 60's and 70's, including subtle analog-style distortion. It offers the same 32 Bit internal processing and sound quality of the Logic Audio Platinum phaser plug-ins.

Rate

Speed of the phasing effect. When set to *0*, the phaser is switched off.

Color

Intensity of sound coloration introduced by the phaser, caused by feeding the phaser output signal back into its input.

Stereophase

Relative phase shift between the left and right channels, ranging from 0° to 180°. With 0° selected, the effect is most intense, but not stereophonic. With 180° selected, the effect symmetrically rises in the left channel while simultaneously falling in the right channel and vice versa.

Tremolo

A periodic modulation of the amplitude (level) of the sound is known as tremolo. The modulation is controlled via an LFO. The Fender Rhodes suitcase piano features a stereo tremolo and many other electric pianos have a simple, but quite obtrusive mono tremolo, which can introduce a strange kind of polyrhythmic feel to performances.

The original Wurlitzer piano has a mono tremolo with a fixed modulation rate of 5.5 Hz. For an authentic Wurlitzer sound, choose 0°. For Rhodes sounds, select 180°. The settings in-between result in nice spacey effects, especially with low LFO rates.

Rate

Speed of the tremolo effect (LFO frequency).

Intensity

Amount of the amplitude modulation. With 0 selected, the tremolo effect is switched off.

Stereophase

With a setting of 0°, the level undulates in phase on both channels. With 180° selected, the modulation is perfectly out of phase, resulting in a stereo tremolo effect also known as "auto panning". The effect is similar to manually turning the pan pot from side to side.

Chorus Intensity

The well-known chorus effect is based on a delay circuit, the delay time of which is permanently modulated by an LFO, while the delayed effect signal is mixed with the original dry signal. It is the most popularly used effect on electric piano sounds. This parameter regulates the intensity (the amount of delay time deviation), while the LFO rate is fixed at 0.7 Hz. Pay close attention when using high values as this may result in the piano sounding detuned.

7 The E-Piano Models Emulated

Rhodes

The most commonly known and widely used electric piano model was constructed by Harold Rhodes (born 1910). Designed in 1946 as a piano surrogate for practice, education and army entertainment, the Rhodes piano was successfully marketed by guitar manufacturer Fender from 1956. The Fender Rhodes has become one of the most popular musical instruments in jazz, especially electric jazz. Its popularity in pop and rock music occurred after CBS took over production of the Rhodes in 1965. Despite further changes in ownership throughout the company history, the instrument is most commonly called the "Fender Rhodes". There are also a number of "Rhodes" synthesizers (which were developed by the now-defunct synthesizer manufacturer ARP). Japanese synth and music technology manufacturer Roland were the proprietor of the Rhodes name for a while, and released several digital pianos which carried the Rhodes moniker. From 1997, until his death in december 2000, Harold Rhodes again inherited the name.

The method of sound generation used by the Rhodes piano is based on metal reeds which function much like a tuning fork. These are hit by a hammer action that works in a similar fashion to that of a grand piano action. The asymmetrically designed "tuning fork" consists of a thin tine and a massive tone bar, which are bolted together. Due to construction considerations, some of the tone bars are rotated by 90 degrees. The piano is kept in tune by the mass of a spring which can be moved along the tine. The tine oscillates in front of an electric pickup, similar to that of an electric guitar. This functions along inductive principles, with permanent magnets placed around the tine having a damping effect on its movement, thereby affecting the sound.

Like the output signal of an electric guitar, the Rhodes output signal is rather weak and needs quite a bit of pre-amplification. The Rhodes sound is not harmonically-rich. This is why a tre-

ble boost or an overdrive effect, which can both add harmonics, is quite welcome when it comes to playing the Rhodes. Playing the Rhodes is, as mentioned earlier, at its best when using tube amplifiers.

The Rhodes piano was also made available as a suitcase piano (with pre-amp and two-channel combo amplifier) and as a stage piano, without amplifier. Both of these 73-key "portable" versions have a vinyl-covered wooden frame and a plastic top. In 1973, an 88 key model was introduced. Smaller "Celeste" and bass versions were less popular. The Mk II (1978) had a flat top instead of a rounded one. This allowed keyboardists to place extra keyboards on top of the Rhodes. In 1984 the Mark V was introduced, and even sported a MIDI output. Around this time, Rhodes production decreased as most keyboard players invested in the more flexible (and lighter) digital synthesizers available. These keyboards could emulate the sound of older pianos, like the Rhodes, and also had the bonus of a range of great new piano sounds.

The individual characteristic sound of each Rhodes piano depends more on the adjustment and maintenance of the instrument than on the model. Early models had hammers covered with felt, resulting in a smoother sound than the newer models, which had neoprene-covered hammers. The suitcase piano featured a pre amplifier which could create a sound with a very dominant mid range. But appropriate pre amplifiers and equalizers can make a stage piano sound the same. The stage piano has no power cord—just like an electric guitar.

The MkII has no resonance clamps in the treble range, unlike former models. This is why it has a little less sustain in the treble range. The most significant differences in terms of sound depend on how "deeply" the tine is adjusted. In cases where it is in a deep position—i.e. closer to the pickup—the bell characteristic becomes more prominent. In the eighties, many Rhodes pianos were adjusted so that they had more "bell"—the taste of the time.

There is little use in naming the most prominent Rhodes players and styles. Practically every keyboard player of the electric jazz, jazz rock, crossover, soul pop and rock styles used to play it, at least in the seventies. Many still do. One of them is Ray Charles, who played the role of a blind music shop owner in the Blues Brothers movie. Negotiating the price of a used Rhodes, the Blues Brothers mentioned the lack of keyboard "action". In the ensuing furious—and famous—Rhodes solo, Ray Charles proved that this particular Rhodes had plenty of "action". For those of you who have never played the original instrument, the keyboard action feels a little smooth in travel and sticky when fully depressed. This makes its "feel" a little unusual for many players unfamiliar with it.
Obviously, though, its feel is good enough for Ray Charles!

Rhodes Models:

- Suitcase MkI
- Stage Piano MkI
- Stage Piano MkII
- Bright Stage MkII
- Hard Stage MkII
- MarkIV
- Metal Piano
- Attack Piano

The Metal Piano and Attack Piano models feature sound qualities that can be "aimed at" with the original Rhodes instruments, but not to the extent of these models. They do not sound realistic, but they are included as sound "ideals" that the Rhodes technicians might have had in mind when preparing their keyboards.

Wurlitzer Piano

This well-known manufacturer of music boxes and organs also built electric pianos, the portable versions of which have written pop and rock music history. The 200 series Wurlitzer pianos are smaller and lighter than the Rhodes pianos, with a keyboard range of 64 keys from A to C and an integrated amplifier and speakers.

The action resembles that of a conventional acoustic piano. It can be played with velocity sensitivity, just like the Rhodes. Its sound generation system is based on spring steel reeds which can be tuned with a solder weight. The Wurlitzer has electrostatic pickups: The reeds are supplied with a 0 volt current and

move between the teeth of a "comb", connected to a 150 volt current. The tone of the Wurlitzer, which was first manufactured in the early sixties, features many odd harmonics. If you were to ever try to emulate its sound with an analog synthesizer, you would start by switching the oscillator to output a 60% rectangular (PWM) wave.

The Wurlitzer is best known as the signature piano sound of the band "Supertramp". You will know it from their "Crime of the Century" album. It can be heard on "Bloody Well Right", "Dreamer", "Hide in Your Shell" and also in "The Logical Song". You might also recognize the Wurlitzer sound when listening to Pink Floyd's "The Dark Side of the Moon" or "Wish You Were Here" ("Have a Cigar", "Money", "Time") and "I am the Walrus" by the Beatles.

Wurlitzer Models:

- Wurlitzer 200 A
- Soft Wurlitzer
- Funk Piano

The model *Funk Piano* does not sound realistic in the bass. We've added this special synthetic sound of the piano engine as a bonus.

Hohner Electra Piano

Not to be confused with the all-electronic RMI Electrapiano, the extremely rare Hohner Electra Piano offers striking hammers like those of the Rhodes, but a stiffer keyboard action. It was designed to resemble the look of a conventional acoustic upright piano. John Paul Jones of Led Zeppelin played it on "Stairway to Heaven", "Misty Mountain Hop" and "No Quarter".

Hohner Electra Model:

- Electra Piano

8 MIDI Controller List

E-Piano	Model	64
	Voices	72
	Tune	73
	Decay	65
	Release	66
	Bell	67
	Damper	68
	Intensity	71
Stretched Tuning	Lower	69
	Upper	70
	Warmth	74
Equalizer	Treble	75
	Bass	76
Overdrive	Gain	77
	Tone	78
Phaser	Rate	79
	Color	80
	Stereophase	81
Tremolo	Speed	82
	Intensity	83
	Stereophase	84
Chorus	Intensity	85